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THE Journal of Home Economics

For those interested in Homemaking, Institution Management, and Educational Work in Home Economics

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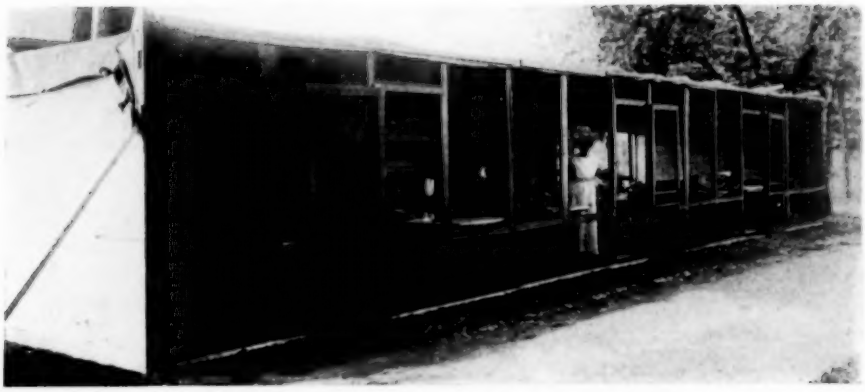

A Massachusetts Canning School (See page 27)

THE

Journal of Home Economics

VOL. IX JANUARY, 1917 No. 1

THE DEVELOPMENT OF HOME ECONOMICS

ISABEL BEVIER

Director of Household Science, University of Illinois

In the JOURNAL for October, 1911, a memorial number for Mrs. Ellen H. Richards, there is a review of the development of Home Economics in the United States. It is the purpose of this article to give some idea of the progress of the subject in the United States since that time.

As will be seen by reference to the article mentioned, by 1911 Home Economics was at least on trial in quite a variety of organizations and institutions. It was included in the curriculum of many public and private schools, practically all of the state universities and Land Grant colleges, and in many endowed institutions. Women's clubs, Young Women's Christian Associations, and many philanthropic organizations had sought its aid in their work.

Owing to the fact that the agricultural colleges had put emphasis upon the scientific phases of the work, the term "scientific" was perhaps a little over-worked at that time, and led the housekeeper to announce that she did not know anything about science, but she *could* cook.

A study of the JOURNAL for the past five years gives one the impression that this period has been one of steady growth and adaptation of Home Economics to a great many types of work and also that there has been an attempt at standardization, not only of the subject matter to be taught, but also of the methods of teaching it. For example, a differentiation of high school from college work was easily made on the use of the word, "scientific." It was evident that while it was possible in college courses to have a strong basis of science, such a plan

was quite impossible in the high school, in so far as the content of the course was concerned. There the term, "scientific," referred to the method to be used. The part upon which emphasis could be placed for the student was careful manipulation, cost, and the digestion of food connected with the student's knowledge of physiology. The reaction from the overworking of the term, "scientific", led to undue emphasis upon the word, "practical", as though the two terms must of necessity be opposing ones, and great stress was placed upon the so-called "practical courses" with emphasis upon skill in manipulation, the cost and quality of the finished product, and this "practice" idea was aided by the establishment later of the practice houses or apartments as a feature of the work.

The criticism of these houses is: first, that the standard of living is too costly, both as regards time and money expended; second, that so many students do the work that no one individual is responsible for any part of the result; third, that conditions are so abnormal that the practice housekeeping has little value. Notwithstanding the criticism, the first experimental house, which was at the University of Illinois, 1908, has been followed by many others, notably, Rock Hill, South Carolina; Denton, Texas; Pratt Institute; Wisconsin; Cornell; and Mississippi State College for Women; and some form of practice housekeeping is offered now in most institutions.

The same idea emphasized household management courses as part of the preparation of the manager of an institution. All these are but indications of the public appreciation of the breadth of the subject and the recognition of its ability to help in the solution of the problems of daily life. Gradually the public conception grew to the realization that Home Economics meant not only selection and preparation of food, but that its goal was really the improvement of the home. Accordingly, one finds in the literature pleas for courses on the home, notices of special courses offered for homemakers, and suggestions for the study of the family and for art in the home.

Home Economics did not escape that watchword, "efficiency," and the promoters of scientific management found a wide field for effort in the haphazard business of housekeeping. This realization that Home Economics was working for the home, and seeking to enable the woman to see the home in its larger aspects and her part and place in it, led very naturally to emphasis on the economic questions involved in home management and furnishing, and the words "division of income"

and "family budgets" were added to the vocabulary of Home Economics. Any serious study of the home, its processes and products, disclosed at once the fact that many questions concerning time-honored practices could not be answered, and pointed very clearly to the need for research, and so that phase of the subject received attention. Home Economics had profited greatly by the research in the problems of nutrition, but it began to be realized that many of the questions concerning household processes were most likely to be solved by women; witness the answer to the question, "What makes jelly jell?"

While the homemaker was especially interested in the food problem within the home, the social worker, the teacher, and the physician were working at the problem of food for the child in school, and thus a new impetus was given to the study of that very important question, the feeding of school children. School boards took up this question and provision was made in many school buildings for the serving of lunches under the direction of the teacher of Home Economics and as a part of her regular duties.

Once this connection between food and health was recognized, many new lines of work were suggested, such as the housing problem, and the clothing question. Indeed, a new profession was opened to women, viz., that of the dietitian. Ordinary people began to understand that the term, "diet," was not confined to the sick room. This change in public sentiment led to courses for the training of people who should understand how to feed both the well and the sick, the child and the adult, and courses for the training of dietitians, as well as for lunchroom manager, were added to the curriculum, and the terms, "standard diet" and "basal ration" came into general use.

It was in the year 1912 that the American Home Economics Association gave proof of the development of the subject within its own ranks by the publication of *The Syllabus of Home Economics*. This syllabus represented the work of a committee for more than two years. Its purpose as stated in the syllabus is "to classify in logical order the various topics which can properly be included under the term, 'Home Economics.'" One proof of growth in the conception of the subject is shown by the fact that a fourth division, household and institution management, was added to the three original ones, food, clothing, and shelter, showing the gain in appreciation of the social significance of the work. In connection with this idea of the social value of the work, one can offer as proof the specific work of the government for

one class of people. While not officially connected with Home Economics, it is so closely allied with it as to warrant consideration.

Reference is made to the questionnaire on Home and Woman sent out October, 1913, by Secretary Houston of the Department of Agriculture. The point of view of the Secretary is given in the following quotations:

THE WOMAN ON THE FARM

The woman on the farm is a most important economic factor in agriculture. Her domestic work undoubtedly has a direct bearing on the efficiency of the field workers, her handling of the home and its surroundings contributes to the cash intake, and, in addition, hers is largely the responsibility for contributing the social and other features which make farm life satisfactory and pleasurable. On her rests largely the moral and mental development of the children, and on her attitude depends in great part the important question of whether the succeeding generation will continue to farm or will seek the allurements of life in the cities.

HOME MANAGEMENT

The department believes that intelligent help to women in matters of home management will contribute directly to the agricultural success of the farm. It purposes, therefore, to ask Congress for means and authority to make more complete studies of domestic conditions on the farm, to experiment with labor-saving devices and methods, and to study completely the question of practical sanitation and hygienic protection for the farm family.

The farmer's wife rarely has access to the cities where labor-saving devices are on competitive exhibit, nor does she often meet with other women who are trying these devices and gain from them first hand information. It seems important, therefore, that the department, coöperating with the proper state institutions, should be ready to give the farm home practical advice. Some work has already been accomplished in studying the problems of nutrition and advising the women in the country as to the economical use of various foods and methods of using these foods to obtain variety in diet. Apparently there is need also for advice on general diets that will be healthful and varied, because the farm home usually has but a limited number of foods at its disposal and has not the opportunity to add novelties to the diet, such as the city woman finds in her convenient store.

Such a serious attempt on the part of the government to find out actual living conditions among farm women was most encouraging proof of the fact that Home Economics was making for itself a large place in the thoughts of the people.

It was in this year, too, that the United States Government, through another great department, made a contribution to the work of Home Economics by its recognition of the claims of mother and child in the work of the Children's Bureau.

The year 1914 affords substantial proof of the possibility and desirability of combining some phases of Home Economics with many forms of social work. Types of these combinations are visiting housekeepers, work with settlements, such as the connection made between Simmons College and the settlements of Boston, the housekeeping centers of many cities, and the food work done in connection with the social welfare work of many manufacturing plants. Mention must be made, also, of the excellent work in Home Economics by the National Federation of Women's Clubs under the skillful guidance of Miss Helen Louise Johnson.

It was in this year, too, that additional proof of interest in and appreciation of the value of Home Economics was shown by another great branch of the government, the United States Bureau of Education, by the publication of a series of bulletins on Education for the Home. The reasons for such a publication are given in part by the following quotation:

> For most people the home is the beginning and end of life. All their activities proceed from it and return to it. Therefore, of all the arts those pertaining to homemaking are the most important and of all the sciences those which find their application in the home, making us intelligent about the home and its needs, are the most significant.
>
> If the schools are to assist in making us intelligent about the life we live and the work we do, they must provide liberally for instruction in these arts and sciences. Within the last two or three decades, educators and people generally have become conscious of this fact as never before, and gradually the schools are being readjusted to meet the new demands. Probably they have never undertaken a more important or difficult task, and there is constant need for information in regard to methods adopted and results obtained.

Home Economics has official recognition for the first time in this year by taking its place beside Agriculture in the published list of the workers in "Agriculture and Home Economics" in the Department of Agriculture. The word, "extension," is written large in the records of this year, which find an appropriate climax in the passage of the Smith-Lever Act in May, 1914.

The year 1915 stands quite alone as a banner year for Home Economics because of the important legislation of the United States government concerning it. While the Smith-Lever Bill was signed by the President in May, 1914, the plans for its administration were not completed until 1915. This bill is distinguished, not only by the fact that it is the first specific legislation for the home by the Federal Government, but also by the magnitude of the resources it makes available. No single legislative act has brought to Home Economics either so great opportunities or such serious obligations.

The Smith-Lever Act makes provision for "coöperative agricultural extension work which shall consist of the giving of instruction and practical demonstrations in Agriculture and Home Economics to persons not attending nor resident in the agricultural college." In the plans for the administration of this bill, the States Relations Service was organized under the leadership of that friend of Home Economics, Dr. A. C. True, who has for so many years aided in the development of the subject through the publications of the Office of Experiment Stations, and as a member of the committee on nomenclature of the American Home Economics Association. The scope of the work previously included in nutrition investigations was extended to include studies of clothing, household equipment, and household labor, thus constituting the Office of Home Economics under the able guidance of Dr. C. F. Langworthy, for a long time identified with work in Home Economics.

This year was further signalized by another very important event in another department of the United States government, viz., the Bureau of Education, by the appointment of two specialists in Home Economics, Mrs. Henrietta Calvin and Miss Carrie M. Lyford.

There is yet a third feature of legislation, which, while it has not materialized, is significant of the trend of the times. This idea found expression in the Smith-Hughes Bill of the last two Congresses. "This bill would provide Federal aid to coöperate with the various states in the maintenance and support of vocational schools of Agriculture and Home Economics and the trades and industries for persons fourteen years of age and over, and in the maintenance and support of schools for training teachers for the vocational subjects in these vocational schools." The vocational school seems at present the phase most in the public eye. What can Home Economics do for it? What will it do for Home Economics? Both questions are as yet unanswered. To some it seems certain that the vocational school will revise very

greatly the methods of teaching Home Economics. To others there seems some danger that Home Economics in the vocational school shall be judged solely by its power to produce commercial products.

Yet another bill is indicative of the thoughts of some of the people and their desire to promote research in Home Economics. This is known as the Smoot Bill, which would provide Federal aid for research or experimentation in Home Economics at the Experiment Stations of the Land Grant Colleges.

If the JOURNAL may be taken as an index of the spirit and achievements of the work of Home Economics, it would appear that the art side has not been in the public mind as much as the other phases of the work. That condition might be explained on the old theory that the necessities of life, such as food, clothing, and shelter, must be met first, but surely the newer conception of life recognizes that beauty is an essential factor of all right living, and imposes upon every individual the responsibility to make some contribution to the beauty of life.

Thus it appears that in the past five years Home Economics has done much intensive work in classifying and arranging its material, in separating essentials from non-essentials, in improving the methods of presentation, and in interpreting the aim and scope of its work. It has been interested in the home, the school, and that larger field outside the home. It has done much to improve child life, both through its own agencies and in connection with other agencies. It has been found useful by the social worker, the teacher, the philanthropist, and the statesman. It has influenced the private home, the public press, and legislation. It has lived up to its motto, "For those interested in Homemaking, Institution Management, and Educational Work in Home Economics." May it go forward and deeper with a brave heart.

FINANCING THE HOME DEMONSTRATION WORK[1]

D. W. WORKING

Agriculturist, United States Department of Agriculture

With a man's lack of imagination, I am thinking of the home demonstration work somewhat as I have learned to think of the demonstration work which the county agricultural agents are doing. Most of my experience with the activities of these men has been in the Western States. However, as I have seen them at work in both New York and Massachusetts, and have been closely associated with the administration of the county demonstration work during the past four years, I may venture to assume a reasonable familiarity with the county agent movement as it has been developing in the North and West.

What is the idea beneath the movement of which the county agricultural agent is the expression? What is the motive behind his work? What is the method by which he has been able in the short period of four years to establish himself as a necessary institution in more than four hundred counties in the North and West?

You know the idea; but you will let me state it in my own words as an aid to our present thinking. The idea includes a man trained in agriculture, and with the demonstrating gift, stationed permanently in that universal American governmental unit, the county, as the public leader and teacher of the economics of agriculture. The idea includes more than this; but, at bottom, it is to make the business of the individual farmer more profitable; to bring individual farmers into associated groups in order that they may work together to help each other to make their business more efficient. Of course this means study and coöperation on the part of farmers. Because we have learned that the mature man already established in business can not be taught by the ordinary methods of the schools, it means that the farmer must be taught by the demonstration method—that is, that an idea and a plan shall be set forth so clearly that the farmer will be induced to believe in the soundness of the idea and in the workability of the plan on his farm under his circumstances—to believe it so firmly as to be willing to do the work throughout a season, or a year, or more than a year in order to make the demonstration complete. For, let us clearly under-

[1] Presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, 1916.

stand that the new sort of demonstration is not a demonstration until the demonstrator-teacher has convinced the demonstrator-farmer by the latter's actual experience that the idea is sound and that the plan has worked in the particular place for which it was recommended. The farmer may think the idea is sound and that the plan fits when it is presented to him, but he does not know that these things are so until he has tested his own understanding of them through demonstration on his own farm.

I have indicated that the motive in this work is that of profit—a more efficient and therefore a more profitable agriculture. I need not discuss the methods by which the county agent wins his farmers into active coöperation in demonstration work; for I have purposed merely to indicate the idea underlying the movement for demonstration work in agriculture in order to carry it across into the field of home economics; then to suggest a certain line of thinking in regard to home economics demonstration work, and to indicate a method of financing the workers who shall be to the women of the farms what the county agents are to the men of the farms.

It seems certain that we are to have in home economics a group of women workers comparable to the county agricultural agents. It is, therefore, pertinent to ask how they shall be supported in their work. If they are to work to good advantage, they will need to be well supported. We have seen a good many mistakes in the course of our experience with demonstration work. It has been easy in many cases to start the work on promises of private support. Commercial organizations of various kinds have been quick to recognize the value of the movement and to provide funds to establish county agriculturists within the fields of their activities. But at the outset few of them looked far enough into the future to realize that a public service is not really established until it is established fairly and frankly on a foundation of public support. Organizations of farmers were almost as prompt to offer their support when they realized the meaning of the work. Both classes of organizations found that it was much more difficult to provide funds than to promise them; they often found themselves less willing to promise financial support for the second year than for the first.

Probably the one sufficient reason for the difficulty of supporting county agent work on private contributions from commercial and other organizations and individuals had its roots in the fact that the work is fundamentally a public service and ought therefore to be established

frankly on a firm basis of public support. In most cases the county agents from the first were supported in part on public funds contributed by the United States Department of Agriculture. We used to say to chambers of commerce and similar organizations that we were able to promise a certain sum—say $1200 a year—for the support of a county agent if the remainder of the fund needed to finance the work could be otherwise provided. In many cases the county government was immediately prevailed upon to provide an appropriation to match the amount we offered; in other cases the chamber of commerce promised to provide all or a portion of the fund needed. In these and other ways the work got started, but in nearly all cases with a definite assurance that approximately half of the necessary money would come from the public purse, national or county or both. Soon the agricultural colleges became aware of the fact that they needed to be in the work. In my own early personal experience I found the colleges willing to contribute to the cost of supervision; later to help in paying the salary of the demonstrator; and now they are almost unanimous in the belief that the county agent work belongs to the agricultural college as a part of the machinery for doing its work. The colleges have also recognized the fact that the work seems to be most successful when it has a considerable local contribution for its financial support and management. In other words, the college men have learned or are learning what we of the Department of Agriculture are learning, namely, that the professional agriculturist can accomplish much more for the increase of agricultural knowledge and the improvement of agricultural practices when he works in frank coöperation with farmers than when he merely works for them.

While the county agent work was getting established throughout the North and West and while the Department of Agriculture was learning that more could be accomplished by working with individual farmers than by any method previously used, the Smith-Lever Act was passed; and under its provisions we suddenly found ourselves compelled by law, and a liberal increasing appropriation, to work in partnership—that is, coöperative agricultural extension work was actually thrust upon the colleges and the Department of Agriculture. And now we are realizing with new force and a deeper insight that this coöperative agricultural extension work includes home economics. We ought to have understood from the beginning. Thus the problem now is how to accomplish the entire task assigned to us by Congress and the state

legislatures, not merely half of it. It is proper, therefore, for a man to suggest to workers in home economics that it may be worth while to consider the advisability of adopting at the beginning of your woman county agent work the best method we have been able to develop in financing demonstration work through men county agents.

Of course, with the experience of many women's organizations for your background, you may find it better to organize a women's home economics bureau with a membership fee, and with plans for soliciting additional funds to support the County Home Demonstration Agent. Some one may be ambitious to propose a Home Economics Tag Day. My personal ambition is to see the home economics demonstration work established on a basis of definite public support; otherwise people will be asking the meaning of home economics, and following their first question by asking if it is good policy to build an economic structure on a non-economic foundation.

For reasons which need not be discussed at this time, much of the work being done for women and by women has been conducted on a non-economic basis. You need not be told how groups of women have organized "sales" to raise funds for certain worthy purposes and have been wonderfully successful in selling articles of doubtful utility for high prices to kind-hearted or gullible men. I suspect that some of you could be induced to believe that women are discriminated against by employers; that they receive less pay for a given amount of work than men; and that the tendency is to vote an appropriation to support work intended to benefit men and to pass the hat or get up an entertainment to secure money to half-support work intended to benefit women. If there has been such a tendency we are getting away from it. That the work of the women home demonstration agents is as fairly entitled to adequate public support as that of the men demonstration agents is a fact that the public mind is ready to accept. Indeed, as most of you know, a number of county home demonstrators are already being supported by funds arising under the provisions of the Smith-Lever Act, the direct appropriation to the United States Department of Agriculture for demonstration work, and county appropriations.

It seems that we might well agree that the experience of those who have organized and are conducting the demonstration work being carried on chiefly by the county agricultural agents has been sufficient to justify us in believing that the home demonstration work can and should be frankly and adequately supported from the very beginning

as a public service and out of public funds. The work that has been done already points to a repetition of the success of the county agent work, which seems to be more than justifying the expenditure of the public funds thus far used. It is a wise use of public resources to promote economic efficiency on the farms through the activities of trained men teaching farmers by demonstration methods the most approved farm and business practices—such practices as result in greater net gains to individual farmers and the production of increased wealth for the entire country. If we are able, as we are, to justify the expenditure of millions in order to increase economic efficiency on the farms of the United States, can we doubt that it will soon be possible to show that it is also the policy of wisdom to provide other millions in order to increase the economic efficiency of the millions of workers in American farm homes?

A considerable share of the funds arising under the Smith-Lever Act is now being used in home economics extension work; most of this, however, is in support of workers who extend their activities over entire states. Of course, this is an effective way to do extension teaching; but it seems to be less effective than that of equally capable teachers who work within the limits of restricted areas. The county seems to be a large enough unit for intensive demonstration work. The county home demonstration agent is able to get acquainted and to maintain an acquaintance. Within a county the demonstrator can plan her work with a reasonable expectation of being able to continue it until a definite advance has been made. We have had and still have too much touch-and-go in our extension methods. It is time that we should be planning definitely to make our work continuous; time that we should develop systematic courses of instruction; time that it should be possible to recognize definite progress in the advances made by those who are expected to be the beneficiaries of our extension teaching. The county agent seems to be about the only extension worker with a field small enough to make it probable that we may have this kind of continuing work with measurable progress.

I am wondering if this Association might not do well to give its attention to this matter of effectiveness in coöperative extension work; if it might not be well for you to consider the advisability of expressing yourselves as favorable to definite organization in home economics extension teaching; if it might not be well for you to consider whether it is not time to make a declaration in favor of stressing the importance

of devoting special attention to county home demonstration work. Should it seem to you advisable to make special efforts to promote the development of county home demonstration teaching by means of trained workers in home economics, you can make effective use of the success of the county agent movement by advocating a similar movement and organization for the country women who ought to receive a fair share of the benefits intended by the Smith-Lever Act.

As the problem of financing the home demonstration work presents itself in the light of the considerations already set forth or suggested, it seems that we are already at the beginning of a public service for rural women—a service authorized by the Smith-Lever Act. It seems also that the home demonstration work should be regarded as coöperative in the broadest way, both in financial support and in management. This would mean that the Federal Government, under the provisions of the Smith-Lever Act and acts making direct appropriations to the U. S. Department of Agriculture, should provide a portion of the funds; that the states, in supplementing the financial support provided by Congress and by other appropriations for extension teaching, should provide an equal share of the necessary money; and that counties also should contribute to the support of this work, just as many of them are now contributing to the support of county agent work. By allotments from their own funds, by providing the services of their specialists, by conducting investigational work, and by the sympathetic and intelligent administrative supervision of extension directors, and the direct leadership of State Home Demonstration Agents coöperating with the U. S. Department of Agriculture, the agricultural colleges can give this work a unity of motive and method, while local farm bureaus and associations of farm women serve to keep the work responsive to the immediate need of the country homes that should receive the benefits of this great public service furnished by County, State, and Nation.

THE NEW FEEDING IN THE TREATMENT OF TYPHOID FEVER

ALICE CLORINDA WALTON

Formerly Dietitian Albany Hospital, Albany, N. Y.

Looking into the records of febrile diseases, we see that one of the prominent questions has been "Shall we feed fever patients, and if so, what foods shall we use?" In fevers, toxic products act upon the hunger centers of the brain, causing loss of appetite. For two thousand years, empiricism controlled the diet given. If a patient did not want food it must be that he should not eat: and this treatment was continued long after the patient desired food, though no one explained the inconsistency.

Of all febrile diseases, typhoid fever most commands the attention of the nutrition expert today. When we examine the statistics of the last decade we find that typhoid stands fourth in the list of mortality diseases, having an average of 10 per cent. In 1910 there were 2500 deaths, representing 250,000 cases, in the United States alone. This disease attacks the individual during the period of greatest economic value to the community. The loss has been estimated to reach not less than $100,000,000 annually.[1]

Since this disease is curable these figures strongly indicate that the former treatment was inadequate. Diet has always been considered an important factor in the treatment of typhoid, but diet has been revolutionized in the past ten or twelve years. Formerly the patient lost much body weight, and took long to recover it during convalescence.

Extended clinical studies of diet in typhoid fever were carried on by American and European investigators which yielded very important results with reference to liberal feeding. Of important work, that of Shattuck reported in 1897 particularly deserves mention because of its influence with respect to modifying earlier practice. A summary of this earlier work will be found in Nichols' paper on the subject.[2]

Following the clinical studies came laboratory research, in which American physicians were pioneers. Dr. Coleman and associates, Bellevue Hospital, New York, by their respiration calorimeter experi-

[1] Rosenau, Milton J., Preventive Medicine and Hygiene. New York: D. D. Appleton and Co., 1913.

[2] Nichols, John B., Diet in typhoid fever. Providence, 1907, Snow & Farnham Co., 92 p. Fish Fund Prize Diss. No. 50.

ments justified the belief, based on clinical evidence, in a high calorie diet in feeding typhoid patients. They were able to show that even the highest of the previous diets (allowing 2000 calories per day) was decidedly inadequate. Yet the diet used for years supplied only 300 calories per day!

Not much could be done towards changing this until metabolism in fever was studied in greater detail. It had always been thought that the digestive power was greatly impaired during fever—proved, again, by the patient's loss of appetite. In the latter part of the nineteenth century, some investigators[3] came to the conclusion that the higher valued diets reduced febrile loss but did not prevent it. Doctors Shaffer and Coleman[4] undertook to re-investigate this, by feeding 25 patients on food[5] containing a moderate amount of protein and larger amounts of fat and carbohydrates than had hitherto been given. "The most striking result found was the possibility, in all cases, of reducing to a minimum the nitrogen loss, due to breaking down of body tissue. The amount of food required to do this was very large indeed—comparable only to that taken by, for instance, lumbermen in the north woods—and was greater than the amount needed to cover the excess heat production in the body."

In 1912 Dr. DuBois published the results of some six of the highly[6] fed patients of Dr. Coleman. He says that typhoid patients, throughout the disease, can absorb carbohydrate and protein as well as normal individuals. They can absorb fat in very large amounts, but the per cent of absorption is somewhat lower than usual, especially in the first part of the disease.

Later, the two doctors reported on respiratory exchange experiments,[7] to determine the influence of the high calorie diet upon metabolism in typhoid fever. The results disproved one of the chief criticisms of the higher amount of food—that of the influence of food on increasing heat production. It is now proved that during the febrile period food does

[3] Puritz, Von Keyden, and Klemperer.

[4] Schaffer, P. A. and Coleman, W., Protein metabolism in typhoid fever. Arch. Int. Med., 4 (1909), pp. 538–600.

[5] Coleman, W., The high calory diet in typhoid fever; a study of one hundred and eleven cases. Amer. Jour. Med. Sci., 143 (1911), pp. 77–102.

[6] Du Bois, E. F., The absorption of food in typhoid fever. Med. and Surg. Rep. Presbyterian Hosp., N. Y., 9 (1912), pp. 175–189, 2 ch.

[7] Coleman, W. and Du Bois, E. F., The influence of high-calory diet on the respiratory exchanges in typhoid fever. Arch. Int. Med., 14 (1914), pp. 168–209.

not in itself stimulate metabolism. They also found that the patients could store body fat even in the time of high temperature.

Up to the present time no one, having given the high calorie diet a fair trial, has rejected its use for all after patients. For instance, at Mt. Sinai Hospital, Dr. Crohn[8] administered this diet to a large number of patients. He found the food readily taken, distention rare, an absence of the usual emaciation, and a shortened convalescent period. Doctors Kerley,[9] and LaFetra and Schroeder[10] followed the idea in the case of children. They were able to maintain body weight, to increase the comfort of the patient, and to lessen the dangers of the disease.

Let us now consider the diet itself. Doctors Shaffer and Coleman calculated[4] that the minimum daily food requirement should be 40 calories per kilogram of body weight per day, that is, 3000 calories for a patient weighing 70 kilograms or 150 pounds. When this was used, the patient lost nitrogen showing that body protein was not spared. To establish nitrogen equilibrium, 60 to 80 calories per kilo were needed. But here, as elsewhere, the optimum amount of food can only be determined by the needs of the individual patient.

It is well known that protein food should not be given, in health, in amounts larger than are necessary to build up or maintain body tissue. Similar conclusions are now drawn in the case of typhoid, although more protein is broken down per day. The above experiments indicated that from 60 to 90 grams of protein per day were found to give the best results.

The fat needs of the patient vary with the stage of the disease and with the individual. Most patients can take more fat during the third and fourth weeks of the febrile period, and during convalescence, than they can earlier in the disease. Frequently one half of the total fuel value of the food can be given in the form of fat.

Carbohydrate food plays a most important part in preventing consumption of body tissue in fever. This food frequently contributed from 30 to 60 calories per kilogram per day.

[8] Crohn, B. B., Experiences with the Coleman-Schaffer diet in typhoid fever. Jour. Amer. Med. Assoc., 58 (1912), pp. 259–264.

[9] Kerley, C. G., The dietetic and general management of typhoid fever in children. Amer. Jour. Med. Sci., 143 (1912), pp. 348–352.

[10] La Fetra, L. E. and Schroeder, L. C., Experiences with the high-calory diet in typhoid fever of infants and young children. Amer. Jour. Diseases Children, 9 (1915), pp. 387–404.

The selection of the food must be governed by three important considerations. The food must be easily digested, free from harmful residue, and high in calorie value. When we say protein, meat is probably the first food stuff to come to mind. But meat is likely to make an excess of protein in the diet causing rather serious metabolic disturbances, and putrefaction of meat in the intestines may give rise to digestive disorders, and irritate the kidneys. Meat extracts, although they may serve to stimulate appetite, furnish little food, and the extractives they contain may prove toxic. Dr. Coleman concludes that meats, not a necessary source of protein, should be excluded from the diet. Gelatine is especially good if given with sufficient carbohydrate.

Egg whites have long been used, but the value of the whole egg has been overlooked. They are easily digested and the patients may take from four to six a day without difficulty.

Milk is an important, but not an essential, part of the diet. Many patients think they cannot take milk. Van Noorden claims that this is "purely imaginative." There is undoubtedly a limit to the amount of milk that can be digested, depending, of course, upon the individual. As a rule from 1½ to 2 quarts a day are well borne.

The most suitable forms of fat are cream, butter, and egg yolk. Fat has a tendency to cause nausea, vomiting, or diarrhea if given in excess. Again, the individual must be catered to.

Of the carbohydrates we consider only starches and sugars. The starch foods chosen should be easily digested, free from cellulose, and low in water content. Bulk is the chief objection. Toast, cereals (strained), rice, baked and mashed potatoes are the best to use. Cane sugar soon palls upon the taste, and may ferment readily. Glucose alone palls also, but may be used as an alternative. Lactose or milk sugar seems to be the most suitable to use in large amounts. From 100 to 150 grams may be given without producing glycosuria.

Fruits, especially the juice of oranges and lemons and apple pulp, show no ill effects. If the patient suffers from diarrhea even these should be given with greatest caution.

With all this to work from, what kind of menu may be planned? As yet comparatively little has been done in working out cooked dishes, although Miss Cutler, at Bellevue, worked out recipes for custards, junkets, and cocoa, using the maximum amount of lactose that can be taken without spoiling the taste. For example, in a glass of lemonade using the juice of one lemon, three quarters of a glass of lactose can be

used, by making it into a syrup with the water. This beverage gives 450 calories. The ordinary glass yields only 137. Tea, coffee, milk and cream are also good carriers of lactose. Occasionally the dish needs to be sweetened or flavored with cane sugar before the patient likes the taste. Any number of gelatine dishes could be made with either glucose or lactose, fruit juice or milk. This is where the dietitian or nurse must aid the physician.

There are times when the patient finds it hard to take as much food as has been suggested, but usually he will coöperate readily when told that, on the whole, the more he eats the sooner he will recover. Frequently food to the value of 6000 calories was taken without forcing. Dr. Coleman's patients are urged to ask for food whenever they feel they can eat it. The food was usually administered at frequent intervals from six to eight times a day. The higher caloric standard is not reached at once. The patient's individual requirement must be found, and his previous diet may have caused disturbances that need correcting. Consequently a liquid diet—milk, cream, and lactose—is used, being gradually increased.

In conclusion we may say that the high calorie diet is a very great stride towards the better treatment of not only typhoid, but probably of all fevers. The few criticisms come from those who have not tried the diet, and, on the whole, these have been refuted. The advantages seem to be many. The patients are contented, almost free from delirium, and not more liable to relapse. Abdominal distention and diarrhea, which were considered symptoms of the disease, have ceased. Body weight is either maintained or loss is recovered before the patient leaves the hospital. The long slow convalescence has apparently disappeared.

We have here, then, a wonderfully conclusive study, carried on in a comparatively short space of time, and a study of the greatest benefit to mankind.

THE NEW DIETETIC TREATMENT OF DIABETES MELLITUS[1]

LENNA F. COOPER

Dietitian, Battle Creek Sanitarium, Battle Creek, Michigan

Diabetes mellitus is a disease about which volumes have been written, but about which comparatively little is definitely known. Neither time nor money has been spared in investigating this rapidly encroaching disease, and as a result of recent research, light is beginning to shine, though there are many problems connected with it that are still baffling. Even the cause has not been certainly established, though a relationship between the pancreas and diabetes has long been suspected, and it is now quite generally conceded that diabetes is due to a "deficiency of the internal secretion of the pancreas." Whether this deficiency is due to a morphological change or to a functional derangement no one is prepared to say, but there are strong probabilities that it may be either one or both.

The symptoms of diabetes are quite marked. Those which most directly interest the dietitian are glycosuria, hyperglycemia, and acidosis. There has been much speculation as to the cause of the non-utilization of sugar in the diabetic organism.

Just how this failure on the part of the body to burn carbohydrates is brought about no one can say. There are several hypotheses. Allen believes that in the normal individual the cells have the ability to bind food substances and that in abnormal cases there is a failure to accomplish the said union; the failure being due to a lack or deficiency of the internal secretion of the pancreas. This subject will be considered further under "acidosis."

Closely connected with the glycosuria is that of hyperglycemia or the excess of sugar in the blood. Normal blood contains on the average about 0.1 of 1 per cent glucose. In diabetes the quantity may be increased several times that of the normal. It is possible to have a hyperglycemia without glycosuria, hence the hyperglycemia becomes another means of diagnosis.

The ratio between the nitrogen and glucose excreted when the patient is on a fat-protein diet, known as the D: N ratio is considered by Lusk and others as an index of the severity of the disease. A ratio of 3.65 to 1 is usually fatal, though a still higher ratio has recently been reported.

[1] Part of the address presented at the Ninth Annual Meeting of the American Home Economics Association, Ithaca, N. Y., 1916.

For many years the all important symptom in diabetes to clinicians was glycosuria, but more recently attention has been turned to acetonuria, (the excretion of acetone bodies) or as it is commonly called, acidosis. Many now consider this a much graver symptom than the glycosuria. There is much evidence to show that these bodies are the result of imperfect oxidation of the fats and proteins, particularly the fats. But it has also been observed that "fats burn only in the fires of the carbohydrates," that even normal subjects can be made to excrete acetone bodies when fasting or when insufficient carbohydrate occurs in the diet. There has been much speculation as to the cause of this failure to burn fats, but Ringer has worked out what seems to be a very plausible hypothesis, and he attributes both glycosuria and acetonuria to a failure on the part of the body to form the "glucoside union."

Woodyatt believes that obese people, whether normal or diabetic, are very prone to acidosis particularly during fasting because of the burning of large quantities of body fat. Likewise very thin people, unless totally glycosuric, burn body protein with a corresponding amount of glucose and do not develop a high acidosis.

The dietetic treatment of diabetes has passed through several stages. Allen reviews it briefly as follows:

> The history of diabetic therapy, so far as it is significant or valuable, consists merely in an inter weaving or alternation of two principles. One is restriction of the sugar-yielding elements of the diet, namely, carbohydrate and protein. The other is diminution of the total caloric value of the diet. The latter is the older. Willis reported benefit from a diet limited to milk and barley-water cooked with bread. There have been milk and vegetable cures since then; but whereas the authors aimed at a nontoxic diet, what they really achieved was under nutrition. Then came Rollo with his notion of animal food to strengthen digestion, and thus the benefit of carbohydrate restriction was accidentally discovered. The harmfulness of excessive protein-fat diet was soon recognized and Bouchardat, Cantani, and Naunyn introduced fast-days and lower diet. Then came the ritual of Van Noorden's oat cure and the widespread ideas concerning special properties in oatmeal, which ought not to have gained credence among those acquainted with the literature of previous carbohydrate and vegetable diet. Blum broke the spell by having the courage to declare that oatmeal is like any other form of starch; and then straightway others made the test, and it became established that there is no special virtue of any kind in oatmeal. The oat cure gave patients a few days' rest from protein-fat excess by substituting carbohydrate excess. Its advocates claimed that it avoided the under nutrition character-

istic of other carbohydrate cures, by making up a diet adequate in protein and calories on the oat days; but the under nutrition was present in the fast days or vegetable days preceding and following the "cure," and therein lay the principal benefit. The oat cure merely shows that a large proportion of diabetics still manifest a surprisingly high carbohydrate tolerance when conditions are not too unfavorable. It is a failure in genuinely severe cases.

The fasting treatment is also an extreme modification of the older method of diminishing the caloric value of the diet. Guelpa, of Paris, in 1910 read a paper before the British Medical Association, recommending fasting purgation as a remedy for diabetes. This method received much more attention in France than in England. In America, Dr. Allen of the Rockefeller Institute has done more than any other one person in not only calling attention to this remedy but in demonstrating the reasons for its efficacy. In other words, Dr. Allen has placed the method upon a scientific basis. Before attempting to apply the method to human subjects he studied the condition in experimental diabetes in dogs made glycosuric by the removal of large portions of the pancreas. He found that when these animals were fasted until sugar free and then kept on a low caloric diet they lived and thrived, but that when he attempted to fatten them, they invariably died. In severe cases (eight-ninths or more of the pancreas removed) he found it necessary to fast the dogs for several weeks before they became sugar free.

In applying these principles to human diabetics, Dr. Allen obtained similar results. He found that by fasting the patient until sugar free for at least twenty-four hours, that he could then feed them upon a gradually increasing diet and keep the patient free from glycosuria. Usually two or three days are sufficient to render the subject free from sugar, but sometimes eight or ten days are necessary. Dr. Allen does not hesitate to recommend the long fast even to greatly emaciated patients unless it is accompanied by nausea and vomiting, in which case it seems advisable to give a very restricted diet for a week or so, then give another fast which is usually sufficient to clear up the sugar. Other physicians believe they get better results by breaking the initial fast after about the third day and repeating it again in a short time. The first and most important step is to render the patient sugar free and this is accomplished by fasting. This gives the weakened functions a rest. After a few days, very severe cases show an ability to utilize some carbohydrate as is shown by a rise in the respiratory quotient, indicating the utilization of metabolic sugar. During the fast, the

patient is urged to drink freely. He may also be given a cup of black coffee and a cup of tea each day, also a clear broth and whiskey in small amounts, though none of these are necessary. From a psychological standpoint it is usually advisable to give something, otherwise the family, if not the patient, himself, becomes somewhat alarmed. For this reason, the fasting diet is sometimes called a "liquid diet." To this diet the addition of an agar-agar jelly is also valuable, not only because the patient feels that he is getting "something" but because it also adds bulk.

The second important step is to establish the tolerance, not only for carbohydrate but for protein and fat as well. Remembering that about 50 per cent of the protein is converted into glucose and that acetone products may be formed from the remainder of it, it at once becomes apparent that protein must also be restricted. Usually not more than 50 to 70 grams are allowed.

Since fats are prone to produce acidosis, and much more so in some cases than in others, the taking of fats may also have to be restricted. It is at once apparent that the caloric intake must necessarily be low. Usually after the patient burns up his excess body fat, the acidosis decreases and the fats may be somewhat increased, but the patient must be made to understand that for a long time at least, he must remain on a low caloric basis. While in an institution, the patient should rarely exceed 2000 calories. Overfeeding, even with fats, will not only cause a reappearance of sugar, but acidosis as well, and the condition may even be worse than before beginning the treatment.

The tolerance is usually established first for carbohydrate, then for protein, and lastly for fat. Allen states that fat should never be given first. For the sake of simplifying the work of both physician and dietitian, some institutions have formulated dietaries with gradually increasing amounts of food constituents. Dr. Hamburger and Miss Perry, dietitian, at Cook County Hospital, have worked out a very efficient system. Two schedules are in use at the Battle Creek Sanitarium, one for mild cases, the other for more severe ones. Schedule 1 for mild cases is so arranged that the carbohydrate increases 0.5 calorie per pound of body weight until 2 calories are given. Then it increases 0.1 calorie until 3 calories are reached; after that 0.2 calorie per pound is added. The fat is likewise increased by ratio. In mild cases a reduction of carbohydrate may be all that is necessary to render the patient sugar free, but for fear of acidosis dur-

ing the semi-fasting and in order to cut down the total calories, the fat is also reduced to a very small amount and then gradually added.

In severe cases the additions must be made much more slowly. It must also be remembered that no schedule will fit *all* cases, and that each patient must receive individual daily attention from both doctor and dietitian. The reappearance of even a small quantity of sugar is the signal for at least a twenty-four hour fast or until the patient is sugar free. When feeding is resumed, the carbohydrate is materially lessened, usually to one-half of the amount which produced the sugar and from this point added more slowly than in the former feeding. When the protein is kept low an increase in the ammonia output usually means an increased acidosis due to too much fat.

A weekly fast or semi-fast is recommended as a routine measure for the sake of sparing the weakened functions.

A third important step is the after care of the patient. Since he usually returns home after a few weeks' stay at the hospital or sanitarium, his care will depend upon himself or members of his family. While he is in the hospital, one of the most important things that can be done for him is to instruct him in both the preparation of his food and in the testing for urinary sugar. If the case is a severe one, he should make daily tests for sugar, but if less severe, once a week. He should also be taught, if possible by laboratory method, the preparation of diabetic dishes. One of the most interesting classes in cookery at the Battle Creek Sanitarium is a class of about twenty-five diabetic patients who meet twice weekly for instruction and practice in this special cookery. It is surprising how much they learn in a few weeks' time about calories and food constituents. It is also important that they should have some printed instructions to carry home with them. This is especially important if the patient is a man and must depend upon someone else to prepare his food. Miss Eckman, dietitian at the Massachusetts General Hospital, has prepared a set of menus with caloric, protein, fat, and carbohydrate values.

In summarizing, Hill and Sherrick of Boston say that the two most important things to remember in this treatment are the following:

> First, do not raise the diet too quickly after starvation, and pay just as much attention to the protein intake as to carbohydrate; second, do not worry if the patient loses weight: it will not hurt him.

Dr. Joslin, of Boston, issues the following card of instructions to patients and, in addition to those given here, a list of vegetables, fruits,

and nuts in terms of 5, 10, 15, 20 and 40 per cent carbohydrate, also the caloric value of some miscellaneous foods.

Fasting. Fast until sugar-free. Drink water freely and one cup of tea and one cup of coffee if desired. If sugar persists after two days of fasting, add in divided portions 300 cc. of clear meat broth.

Alcohol. If acidosis (diacetic acid) is present, take 0.5 cc. alcohol per kilogram body weight until acidosis disappears. Alcohol is best given in small doses every three hours.

Carbohydrate tolerance. When the twenty-four hour urine is sugar-free, add 150 grams of 5 per cent vegetables, and continue to add 5 grams carbohydrate daily up to 20 grams, and then 5 grams every other day, passing successively upward through the 5, 10 and 15 per cent vegetables, 5 and 10 per cent fruits, potato and oatmeal to bread, unless sugar appears or the tolerance reaches 3 grams carbohydrate per kilogram body weight.

Protein tolerance. When the urine has been sugar free for two days, add 20 grams protein (three eggs) and thereafter 15 grams protein daily in the form of meat until the patient is receiving 1 gram protein per kilogram body weight, or, if the carbohydrate tolerance is zero, only 0.75 gram per kilogram body weight. Later, if desired, the protein may be raised to 1.5 gram per kilogram body weight.

Fat tolerance. While testing the protein tolerance a small quantity of fat is included in the eggs and meat given. Add no more fat until the protein reaches 1 gram per kilogram (unless the protein tolerance is below this figure) but then add 25 grams fat daily until the patient ceases to lose weight or receives not over 40 calories per kilogram body weight.

Reappearance of sugar. The return of sugar demands fasting for twenty-four hours, or until sugar free. The diet preceding the reappearance of sugar is then resumed except that the carbohydrate should not receive half the former tolerance until the urine has been sugar free for two weeks, and it should not then be increased more than 5 grams per week.

Weekly fast days. Whenever the tolerance is less than 20 grams carbohydrate, fasting should be practiced one day in seven; when the tolerance is between 20 and 50 grams carbohydrate, 5 per cent vegetables and one-half the usual quantity of protein and fat are allowed upon the fast day; when the tolerance is between 50 and 100 grams CHO the 10 per cent and 15 per cent vegetables are added as well. If the tolerance is more than 100 grams carbohydrate, upon the weekly fast day the carbohydrate should be halved.

In addition to the regulation of the diet, physicians are finding exercise a valuable adjunct to the treatment. Pratt and Spooner a few years ago found that diabetic dogs having a tolerance for 125 grams of

glucose when kept in a cage, had an increased tolerance of 10 grams when left free to run about. Allen has also found that dogs utilizing only 100 grams of bread without exercise can be made to handle 200 grams working in a treadmill. This principle is also made use of in treating people, but it must be borne in mind that it is a dangerous procedure when there is marked acidosis. Such a patient should be put to bed during the fast and kept quiet until the acidosis subsides. Then, vigorous exercise for short periods, the length of which may be gradually increased, undoubtedly increases the sugar consumption.

The results of the above line of treatment have thus far proven very satisfactory. It is true that many physicians are apparently fearful of such heroic measures, but those who have followed it out consistently are very much pleased with it. Most of our large hospitals are now employing it.

About 400 cases have been treated at the Battle Creek Sanitarium with very satisfactory results. Diabetes in children, a condition formerly considered absolutely hopeless, now yields quite rapidly to the régime. What the ultimate results will be of living on a low metabolic plane, reaching perhaps over a period of several years duration, no one can foretell, but it has already been demonstrated that it prolongs life, renders the patient more comfortable, and increases the mental and physical efficiency to such an extent that most of them are able to continue with their former avocations. Hence, it would seem that there is nothing to lose by the new method of treatment, but, to the contrary, there is much to gain.

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SWEEPING POWDER

Miss Eda Lord Murphy, of Georgia Normal and Industrial College, sends the following directions for the preparation of a sweeping powder, the result of experiments made in the school, with varying proportions.

The ingredients of this satisfactory sweeping powder are sawdust; sand, tending to polish the floor; salt, keeping the mixture moist; kerosene for catching the dust, and a disinfectant.

Sawdust	1 barrel
Sand (sifted)	1 bushel
Salt (coarse)	10 pounds
Kerosene to moisten.	
Creolin, or other disinfectant.	

The commercial varieties cost about $3\frac{1}{2}$ cents per pound, even in large quantities, while this can be made at a cost of about $\frac{1}{4}$ cent per pound.

A MASSACHUSETTS CANNING SCHOOL

LAURA COMSTOCK

Extension Professor in Home Economics, Massachusetts Agricultural College

The Essex County Agricultural School held a canning school during the first week of September, in Danvers, Mass., to give instruction to the housekeepers and the local leaders of canning clubs of that county. Mr. Fred A. Smith, Director of the school, conceived the idea and secured the coöperation of the Massachusetts Agricultural College to map out a program, secure necessary demonstrators and speakers, and to assist during the week of the school.

A temporary wooden structure was erected adjacent to the Home Economics building. This was screened and was equipped with seven tables, each accommodating eight people; two ranges, two oil stoves, one out-door canner stove. Charcoal and oil were the fuels.

Each member of the school actually took part in the canning, learning "to do by doing." The vegetables and fruits used were raised on the farm in connection with the school.

From 9.30 to 10 each morning instruction was given by members of the Agricultural School staff on the cultivation of fruits and vegetables. The rest of the morning was devoted to the actual work of canning both fruits and vegetables, jelly making, and similar processes under the direction of Mrs. Nellie F. Snyder of the United States Department of Agriculture.

The first hour in the afternoon "The Menu" was discussed under the leadership of Miss Laura Comstock of the Massachusetts Agricultural College. The second hour was given to lectures on health and sanitation. Dr. Evangeline W. Young of the School of Eugenics, Boston, talked on personal and sex hygiene; Miss Mary Stocking of Simmons College gave two talks on sanitation in the home, and Dr. Jones of the State Board of Health gave a talk on the prevention of disease.

For three afternoons Mr. George L. Farley, State Leader of Junior Extension Work, gave instruction as to the value of club work to the individual boy or girl and to the community, discussed ways of organizing clubs, and the follow-up work necessary. Miss Bertha A. Holden, appointed supervisor of the Homemaking School in the Essex County Agricultural School in July, made possible the week's success by attending to details and providing night quarters.

Although the weather was exceedingly hot for three of the five days an average attendance of 79 for the five days showed the interest taken in the work and the value members placed upon the instruction.

The practical work done by the students was as follows: canning of fruits and vegetables, jelly making, fruit butters, marmalades, and conserves.

The success of the school has proved to those who had it in charge the desirability of this kind of instruction in other localities.

THE NEED OF STANDARDIZATION

The Twenty-third Annual Report of the Inspector of State High Schools, state of Minnesota, for the school year ending July 31, 1916, contains the following statement:

Less can be said favorable to manual and home training. Teachers are better trained than formerly and, as a result, such subject-matter as we have is better presented. The required qualifications of teachers in both these departments are as high as it is at present desirable to make them. But the courses of study are too often found to be unrelated and indefinite—having no purposeful connection with other school work and leading to no intelligent and serviceable life relationships. There are no prescribed nor generally accepted standards of content for the courses of study in either manual or home training. The character of the work in these departments leads to the conclusion that a suggestive outline of subject-matter must be prepared at the earliest time possible.

Home training is found to be by far the most popular subject. The enrollment shows a decided increase in the grades and has almost doubled in the high school. The number of departments has increased from 79 to 185.

FOR THE HOMEMAKER

ANNOUNCEMENT

Miss Helen Louise Johnson, who has been for four years chairman of the Home Economics Department of the General Federation of Women's Clubs, and whose remarkable work on this committee has aided materially in the development of Home Economics, is to write a series of articles for the Homemaker's Department. These will appear in February, March, April, May, September, October, and November.

The first three topics are as follows:

I. February. Food and the Budget.
A study of conditions and how to meet them.

II. March. Women and Clothes.
What the clubs are doing in the matter of standardization.

III. April. Club Programs in Home Economics.

HOMEMAKING AS A PROFESSION

MRS. LEAH D. WIDSTOE
Salt Lake City

"Home Economics stands for the ideal home life for today unhampered by the traditions of the past."

Home Economics as trade or profession. A trade is an occupation in which the worker is instructed in the performance of certain tasks, with the responsibility or power of directing assumed by another. Such is the trade of carpenter, mason, bricklayer, plumber.

The work which involves the responsibility of having the many tasks correctly done is in the nature of a profession. Thus the work of the architect or contractor is a profession.

The term "learned profession" often is used. That involves the spending of much time and possibly money in the learning of the chosen

profession, and is usually done by means of attendance at schools and colleges. Such is the profession of law, medicine, architecture, and all the liberal arts.

One may learn to assume the responsibility in the performance of great tasks by hard knocks in the school of experience only. Such would not be termed a learned profession. The business of a contractor may be classed here.

In the light of the above definitions where may the great work of homemaking be classed? It is universal; that is, there are workers of all classes and intelligences engaged in its occupation. But the woman who is the most successful in making a home is in every sense engaged in a learned profession—the greatest one on earth. For she has to initiate, plan, direct, and carry out operations which involve in greater or less degree all the sciences and arts known to man. She also deals with those subtler spiritual powers which make or mar his personal happiness and influence his soul's salvation.

The importance of this work as regards children can scarcely be overestimated. Mrs. Fisher has indicated the great responsibility of parents when she says: "We might conceivably have undertaken to build railway bridges, even though the lives of multitudes depended on them; we might have become lawyers and settled people's material affairs for them; or even, as doctors, settled the matter of their physical life or death. But to be responsible to God, to society, and to the soul in question for the health, happiness, moral growth, and usefulness of a human soul, what reflective parent among the whole army of us has not had moments of heart-sick terror at the realization of what he has been set to do?"

Can anyone feel that this important work should be undertaken at marriage by girls who rely for preparation upon chance occupations at home supplemented by the much abused "mother instinct"? "There should be no more question as to the need of education and training for the woman who selects the food, clothing, and works of art which minister to the highest welfare of a family, than there is for the need of study on the part of the farmer, manufacturer, or the artist who produces them."

Methods of acquiring. The young woman of today has no excuse for answering "not prepared" when life demands that she assume her place as homemaker.

The ideal way for her to learn her profession is to be a willing helper

in a well ordered home, always as Mother's first assistant. There she learns through actual hand contact the methods and the practice of the scientific truth she has learned in the schoolroom.

The mother has not time to teach her the theory as well as the practice even though she knows it. So the schools must supplement this home training and give boys and girls an intimate understanding of these truths that they are to use most in their after life. All truth is good, but life is so fleeting that one must choose that most worth while.

Those who are mothers and grandmothers today need not feel cheated because the schools did not teach such things in their time. Our grandmothers, many of them, were beautiful housekeepers and splendid mothers. They learned their lessons in the hard school of experience and with the price of much unnecessary suffering. Their daughters may now start life with much of the wisdom with which they ended it; but the daughters must go on, improve, and learn other lessons.

All that is necessary is that the desire for improvement remain with one to the end of life, for the absence of growth is death.

There are many ways in which the mature woman of today may keep up-to-date in matters pertaining to better homes. First, she should keep an open mind and, by means of observation of others in their homes and methods of daily life, find things to avoid or to accept and make part of her own life. There are so many good books and magazines published that one can never hope to keep up with all of them; but one should be alert to find new works that will be of particular benefit, and also if possible to be conversant with at least one good home magazine.

In addition there are the extension and correspondence schools provided by the government and state educational authorities which make possible the bringing of new truth and inspiration to our very doors. So the wide-awake woman of today, be she 16 or 60 or 90 years old, can not fail to improve her condition of life unless she is wilfully blind or lazy.

The beauty of home work. A book could be written on the beauty and benefits of home work. Here let it be understood that no work in which man engages on earth can give more satisfaction, more complete joy than that experienced by the mother who has brought up her family in a happy, well ordered home, and sent them out into the world trained to deal with its problems and with the spirit of service.

In no sense can this work be termed *drudgery* unless the one who undertakes it is totally unprepared for it. The performance of a task by rote in which the mind takes little or no account may be termed drudgery. To avoid this the first essential is the proper training. "Whenever one's knowledge of a subject passes the stage of drudgery and becomes a science, its performance immediately becomes a pleasure. The ability to do a thing in the highest known perfection, or even a little better than anyone else, is always a source of delight, and it matters little what that somethings is."

All human work possesses a certain amount of routine or work that must be performed over and over again in the same manner. This is unavoidable with conditions of morality. Even the artist who paints the most glorious conceptions of nature must clean his brushes and his palette and even his studio. If he can not afford an assistant he does it himself. Yet one never hears an artist going around complaining about the drudgery of cleaning his materials! All work must accept its known routine but the worker must use brains to make the routine as little as possible and to keep its place in the background, as does the artist.

The essential thing for all to learn is to love their work, to see its possibilities as well as its difficulties and to make their work their servant instead of their master. This can be done by the homemaker as well as by the physician.

Indeed the first essential to all good work is joy in the doing of it. So the girl must learn her job just as seriously as the boy learns his and must know that it is worth while.

Practice every day finding something helpful to the members of your family that will contribute to their "higher life" and do not hesitate to let your daughter or her friend hear you speak of this phase of home work. We always find what we look for—if it is improvement; it is at our very door knocking for entrance. Will you not let it enter?

DISTRIBUTION: WHAT DO YOU KNOW ABOUT IT?

PERCIVAL FASSIG

Wheeling, West Virginia

Distribution is getting the finished product to the consumer. In fifty, yes, seventy-five, per cent of the cases it costs more to market an article than to manufacture it. We often wonder why prices are higher today than formerly. Much can be traced to finding a market. Finding or creating a market costs money, and lots of it.

If one picks up any magazine or newspaper and looks over the pages of advertisements one finds automobiles, typewriters, furniture, shoes, clothing, preserves, meats, beans, pickles, canned goods, breakfast foods, all arrayed in expensive space with well written matter, and, often artistically illustrated. Then in many cases thousands are spent on circular letters, and store, billboard and street-car advertising. Unfortunately, after creating a market the manufacturer can not rest on that; he must keep "everlastingly at it" should he desire to be successful. When we stop to consider, we know that we must help pay for that expense when an advertised article is purchased? That is only part of the distribution system. In addition, there are the salesmen, or agents, or brokers, the jobbers, the retailers, and the transportation, including the drayage.

Creating a market, then, is one source of our "high cost of living." Whose fault is it? It is yours, mine, and the other person's. We do not know what we want—we rely on the statement of somebody else.

If the farmer must pay more for his clothing, shoes, and implements, he must receive more for his products. If the working man must pay more for his food, wearing apparel, furniture, and rent, he must receive higher wages. And so goes on the endless chain which has its beginning in finding a market.

Undoubtedly, the greatest force in creating a market is advertising—the printed word—and it is undoubtedly the most expensive. Few articles intended for the people at large find a ready market unless well advertised. Take any line, and the dealer will say that it is the advertised article that is asked for by name, and that it is difficult to sell the unadvertised product.

Salesmen are another form of advertising. The firm using printers' ink must also, as a rule, employ salesmen. All the printers' ink in the

world will not bring success unless the article is easily obtainable. Therefore, the manufacturer through his salesmen goes after the jobber, and the jobber in turn assails the retailer, who places the article before the consumer.

Staples such as sugar, flour, potatoes, beans, apples, and oranges are not, as a rule, advertised with printers' ink, but they must yield from three to four, and sometimes five, profits before they reach the consumer. Oranges are handled to a great extent through growers' associations; the associations reach the jobbers, or commission merchants, through local brokers who employ salesmen; the jobbers through their salesmen reach the retailers; and many retailers have salesmen (men to call at the homes) to reach the consumers. In addition to this expense, there is railroad transportation to the jobber, drayage to his warehouse; drayage to the retailer (sometimes drayage, transportation, and drayage); and delivery to the consumer. That is distribution. Does one wonder why it costs to live?

Every one of us who is too proud to carry our purchases is a party to this high cost of living. The grocer will tell you delivery forms the greatest part of his overhead expense. A most commendable plan is that, adopted by some merchants, of charging a certain per cent additional for delivery.

THE FOOD SUPPLY

The annual report of the Secretary of Agriculture contains the following interesting answer to the question as to whether the domestic food supply of the Nation is keeping pace with the growth in population and what are the prospects for the future.

Food supply of the United States

POPULATION

June 1, 1900	75,994,575
June 1, 1910	92,174,516
June 1, 1916	101,882,479

ITEM	PRODUCTION	
	Total	Per capita
Meats: Beef, veal, mutton, and pork (pounds):		
1899	18,865,000,000	248.2
1909	19,712,000,000	213.9
1915	22,378,000,000	219.6
Dairy products:		
Milk (gallons)		
1899	7,265,804,304	95.6
1909	7,466,406,384	81.0
1915 (estimated[1])	7,696,844,000	75.5
Butter and cheese (pounds)		
1899	1,790,097,244	23.6
1909	1,942,378,069	21.1
1915 (no data available)		
Poultry products:		
Poultry raised (number)		
1899	.....	.....
1909	488,500,000	5.3
1915 (estimated)	555,500,000	5.5
Eggs (dozens)		
1899	1,294,000,000	17.0
1909	1,591,000,000	17.3
1915 (estimated[1])	1,811,000,000	17.8
Fish (pounds):		
1900–1904	989,275,000	[2]12.5
1908	1,046,541,000	[3]11.6
1915 (no data available)		
Cereals: Corn, wheat, and rice (bushels):		
1899	3,333,868,710	43.9
1909	3,257,407,468	35.3
1915	4,094,986,999	40.2
Potatoes (bushels):		
1899	273,318,167	3.6
1909	389,194,965	4.2
1915	359,103,000	3.5
Sweet potatoes (bushels):		
1899	42,517,412	0.56
1909	59,232,070	0.64
1915	74,295,000	0.73
Citrus fruits: Oranges, lemons, and grapefruit (boxes):		
1899	7,075,557	0.093
1909	23,447,044	0.254
1915 (estimated)	24,670,282	0.272

[1] Based upon average annual increase, 1899 to 1909, as shown in census.

[2] Based upon population, June 1, 1902, 79,230,563.

[3] Based upon population, June 1, 1909, 90,556,521.

Food supply of the United States—Continued

ITEM	PRODUCTION	
	Total	Per capita
Orchard fruits: Apples, peaches, and pears (bushels):		
1899	197,455,620	2.6
1909	190,433,327	2.1
1915	304,686,000	3.0
Small fruits (quarts):		
1899	463,218,612	6.1
1909	426,565,863	4.6
1915 (no data available)		
Sugar (pounds):		
1899	486,006,871	6.4
1909	1,688,390,143	18.3
1915	2,025,680,000	19.9

These statistics cover the past sixteen years. Within this period the population of the nation has increased, in round numbers, 26,000,000, or 33 per cent. The articles dealt with cover the more important parts of the diet of the people. Meats and dairy products constitute 37 per cent of the average diet, fish 2 per cent, cereals 31 per cent, Irish and sweet potatoes 13 per cent, and other vegetables 8 per cent. It is notable that, notwithstanding the very rapid increase in population, the production per capita of the commodities indicated, with the exception of meats and dairy products, has remained approximately the same or has increased.

FOOD LABELS

In order that the legend on food and drug packages may be less misleading to the public, the officials in charge of the enforcement of the Food and Drugs Act have provided a new plan whereby manufacturers may guarantee their products on the invoice or bill of sale, or by certain other methods, but according to a food inspection decision which became effective on November 1, 1916, they may not make any statement regarding a guaranty or serial number on the labels of packages of foods or drugs which enter interstate or foreign commerce.

Originally it was provided that the manufacturer or wholesaler who desired to guarantee that his products complied with the Food and

Drugs Act might file a general guaranty with the Department of Agriculture to the effect that the foods or drugs he shipped into interstate commerce were not adulterated or misbranded within the meaning of that act. He was then assigned a serial number and was authorized to use this number on his labels to indicate that the guaranty which he had filed with the Department covered the products on which the number was used. After this method had been in operation for some time it was found that it was incorrectly assumed by consumers generally and some retail dealers that the guaranty legend on the label meant that a sample of the product had been examined by the Department and that in effect the Department actually guaranteed the product.

The object of the new provision is to make the manufacturer or wholesaler or person who knows the composition of the food and drug products responsible for their compliance with the provisions of the law. In many cases a dealer does not know the composition of the products he sells, and can not afford the expense of having an analysis made in order to determine it for himself. A provision, therefore, was inserted in the law to the effect that, if the dealer secured a guaranty from the manufacturer or wholesaler or other person from whom he purchases, the party making the guaranty would be responsible under the law, and the dealer would be relieved of responsibility. The dealer should see that all his foods and drugs which have entered interstate commerce, or which he expects to ship in interstate or foreign commerce or to sell in the District of Columbia or the Territories, are guaranteed to him in the manner outlined.

The guaranty was never intended to be, and never has been, in any sense a guaranty by the Department of Agriculture.

There is also a net weight amendment to the Federal Food and Drugs Act requiring that all packages of foods which are shipped into interstate or foreign commerce must be marked plainly and conspicuously with a statement of the quantity of the net contents, either by weight or measure. Shippers who violate the law by failing to mark the quantity of the contents of each package of fruits and vegetables they ship into interstate commerce are liable to criminal prosecution.

EDITORIAL

A Greeting. A Happy New Year to the readers of the JOURNAL! In planning for the coming year we wish to thank our readers for the many pleasant things they have said of the JOURNAL, and for their appreciation of what we have tried to do, and also for the criticisms that are showing us how to make an effective expression of the purposes of the Association. We wish to bring needed help to every teacher of Home Economics, to the many housekeepers who are looking to us for guidance, to the extension worker, and the institution manager. It is our ambition to be in every library in the country, to be on sale at one news stand at least in every large city, and to go into many homes.

For the coming year we plan short articles that will interpret to the reader the results of research and investigation, in addition to the longer reviews of such work; articles written with direct reference to the high school teacher's needs; six articles by the editor written with particular reference to the elementary school; and seven for the Homemaker's Department by Miss Helen Louise Johnson, who for four years served the General Federation as Chairman of their Home Economics Department. In addition we hope for many contributions from the various colleges and schools where work is going on and new ideas are being worked out.

We express heartily our thanks to the many who have contributed during the year articles, reviews, news items. Without these contributions we could not conduct the JOURNAL.

The Smith-Hughes Bill. The Smith-Hughes Bill that has so long been under consideration will probably be brought up for passage in the House early in January. It will then go to a conference committee to be amalgamated with the bill that has already passed the Senate. The following organization for the Board of Control is proposed:

1. *A Federal Board of Seven* consisting of:
   The Secretaries of Agriculture, Commerce, Labor, the Commissioner of Education, and three members generally representative of Agriculture, of Labor, and of Manufacture and Commerce.

or A Federal Board of Five consisting of

The Secretary of the Interior, the Commissioner of Education, and three members generally representative of Agriculture, of Labor, and of Manufacture and Commerce.

To be appointed by the President, with the advice and consent of the Senate, for a term of four years.

Compensation—adequate to secure the services of the highest grade men.

2. Federal Board to annually elect its Chairman.
3. Federal Board to appoint a general director of all vocational work; compensation to be fixed by the Board.
4. Federal Board to employ such clerical and other assistants as may be necessary.
5. *Advisory Committees to be Appointed* from time to time, of five members, each generally representative of Industry, Commerce, Labor, Agriculture, Homemaking, and General or Vocational Education.

Term of Service to be determined by Federal Board of Vocational Education.

Compensation of Advisory Committees to be determined by Federal Board of Vocational Education.

COMMENT AND DISCUSSION

TEACHING HOME ECONOMICS ABROAD

The International Committee on Home Economics Teaching has received the following from one of the readers of the JOURNAL.

I have read with keen interest the article "International Interests in Home Economics" appearing in the November JOURNAL OF HOME ECONOMICS. For several years it has been my ambition to go out into some country less favored educationally than our own and to have a share in Home Economics pioneering. I think that we who believe in education for the home should have a large share in training of young women in South America, Africa, the Islands, and the Orient.

If the International Committee on Home Economics has a list of candidates for foreign work, I should be very glad to register. How may I best learn of foreign conditions and opportunities, especially relating to the field of Home Economics?

Three cheers for Canton Christian College, and for Miss Liu and for all who are making big ventures for the sake of big causes!

With heartiest interest in the international work and a desire to coöperate, I am, Yours very truly, * * * *

The Chairman of the International Committee, Dr. Andrews of Teachers College, Columbia University, will be very glad indeed to hear from other members of the Association.

THE QUESTION BOX

The following question comes from a visiting housekeeper in one of our large cities:

"We find that we must economize in all possible ways but we do not wish to do so in any manner that will affect the health of the child. What would you have to say in regard to the substitution of skim-milk for whole milk for the entire family use?"

Answer: It has been found by recent investigation that certai fats carry an essential dietary constituent, a food accessory the chemical nature of which is at present but little understood. Animals fed on diets lacking this substance fail to grow normally and finally die although sufficient fat as such is contained in the diet. The fat of milk and egg yolk apparently contains more of this unknown substance than other natural foods. Animal tissues, especially the active organs, contain some of this material. It is present in beef suet but wholly lacking in lard. In cereal grains it is present in small but wholly inadequate amounts. Vegetable oils contain very little or any of it. Therefore to advise the use of separator skimmed milk containing only 0.02 % to 0.05 % of fat, in the diets of children may be unwise unless adequate provision is made for supplying the essential fat soluble constituent through a fairly liberal use of eggs, butter, cream and meat. In groups where the cost of these foods makes their use almost prohibitive it is wiser to use whole milk, for there is danger that the children may suffer from lack of this essential fat constituent.

The literature pertaining to this substance includes the following important articles.

Osborne and Mendel, *Jour. Biol. Chem.*, vol. 15, 1913, p. 311; *Jour. Biol. Chem.*, vol. 16, 1913, p. 423; *Jour. Biol. Chem.*, vol. 17, 1914, p. 401.

McCollum and Davis, *Jour. Biol. Chem.*, vol. 15, 1913, p. 167; *Jour. Biol. Chem.*, vol. 20, 1915, p. 633.

McCollum, N. Simmonds, W. Pitz, *Amer. Jour. Physiol.*, vol. 41, 1916, p. 333.

BOOKS AND LITERATURE

Milk and Its Hygienic Relations. By JANET E. LANE-CLAYPON, M.D. New York: Longmans, Green and Company, 1916, pp. vi + 348. $2.50. By mail of the Journal, $2.64.

To any one who is at all familiar with the enormous number and diversity of the scientific contributions to the subjects of milk and its relations to the public health a review of the literature thereof seems like a herculean task for any one individual. Yet this has been undertaken by Dr. Lane-Claypon, Assistant Medical Inspector under the Local Government Board, for the Medical Research Committee of Great Britain. The resulting volume, which was called "a well-documented encyclopaedia of the subject, and more" by one reviewer is not intended merely as a guide to the research worker in the problems of milk and its proper treatment as food. It is also written "to allow those ignorant of scientific technology to appreciate the chief positions which knowledge has gained in this matter, and that for this reason the book may have added value in bringing the illumination given by scientific work to those who are responsible for the formation of public opinion and for the determination of administrative action."

Out of the wealth of available material the author states that she has concentrated attention mainly upon those branches of the subject which have received less attention from other writers. Her volume includes chapters upon the composition of milk; its so-called "biological properties;" its cellular content; the changes in milk incident to various manipulations such as heating in preparation for feeding it; the contaminations of milk; the comparison of breast feeding and the use of cow's milk for infants; bacteria and milk; along with other essays less easily classified. Each chapter is followed by a selected bibliography; and it is preceded by a brief summary written in non-technical language so as to present the more permanent deductions as well as the unsolved problems to the lay reader. This is a unique feature well worth embodying in other books of a similar purpose.

Some of the readers of the JOURNAL will recall the remarkable volume on Milk and Its Relation to the Public Health, compiled from essays by various authors and published in 1908 as Bulletin No. 41 by the Hygienic Laboratory of the U. S. Public Health Service. The reviewer has failed to discover in Dr. Lane-Claypon's book any mention of this valuable contribution which contained among numerous others a noteworthy monograph by the late Prof. J. H. Kastle and Dr. Roberts on the Chemistry of Milk. In fact one will search in vain in the new volume for references to some of the many American contributions to the literature on milk later than 1913, although British papers of the following two years are not overlooked. This charge of neglect does not apply to the subject of milk-borne infections in which the American papers on streptococcic sore throat are not forgotten.

Some of the traditional statements, particularly in regard to the overworked milk ferments, might well be abandoned and finally deleted from our books. Many of the assumptions are based on data from the days prior to the appreciation of strict antisepsis or asepsis in the study of certain milk problems. It requires courage

to consign some of the older ideas to the rubbish heap. Dr. Lane-Claypon's discussion of the inorganic components of milk is timely. Some of the theses in regard to the transferrence of immunity through milk are important, if substantiated. Pediatricians will read with some interest that "where artificial feeding must be employed, there is no evidence that milk loses any of its nutritive value by boiling. The work of numerous observers indicates that rather more satisfactory progress is made with boiled than with raw milk" (p. 188); and that "very little difference, if any, appears to be detected between the different forms of milk—that is, raw or boiled. In some instances the boiled milk appears to be better utilized than the raw, while in one or two cases the reverse is found to be the case. Generally, however, no marked difference was shown" (p. 174). No reference is made to the contentions of Hess regarding the appearance of scorbutus due to the exclusive use of pasteurized milk; but the author devotes a chapter to the *alleged* production of Barlow's disease by the use of heated milk. It is interesting to have some attention given to the growing importance of dried milks in the food industry. In defence of breast-feeding Dr. Lane-Claypon is convinced that "the evidence brought forward gives no support to the statements which have been made to the effect that the capacity for lactation is decreasing among women. Where care is exercised and adequate attention paid to the necessary details, the glands can in nearly all cases be brought into the required degree of activity" (p. 147).

The author has frankly said that the hygienic aspects of the milk supply open such a variety of intricate questions that it is difficult to form a well-balanced judgment. There should be some consolation to any who has labored so diligently, in the knowledge that each earnest attempt, like the present one helps to make subsequent efforts both easier and better. Every such useful service is commendable.

LAFAYETTE B. MENDEL.

Human Physiology. By PERCY G. STILES. Philadelphia: W. B. Saunders Company. 1916, pp. 405. $1.50. By mail of the Journal, $1.64.

Here is a most welcome addition to that very short list of text-books in physiology which cover the subject more completely and thoroughly than does the high school text, yet not in the detail required for one suitable for use in a medical school.

While this is a general text, the chief emphasis is undeniably upon topics relating to nutrition, i.e., digestion, absorption, metabolism, dietetics; about one-fourth of the book is devoted to these. They are still more fully treated in *Nutritional Physiology*, by the same author.

The subject-matter is modern, the author's point of view is carefully chosen with reference to the needs of the general student not armed with two or three years of college work in several sciences. Where the facts are notably a matter of dispute, e.g., with regard to kinds and amount of proteins in the diet, desirableness of frugality in feeding, the contentions and the evidence on both sides receive attention.

We cannot help suspecting, as we read, that this author must be not only a scientist and a teacher, but also a philosopher and a shrewd observer of human nature. Because of this attitude, his book should make a general appeal and have a wide usefulness.

MINNA C. DENTON.

Nutritional Physiology. By PERCY G. STILES. Philadelphia: W. B. Saunders Company. Second edition, 1915, pp. 288. $1.25. By mail of the Journal, $1.36.

Those of us who have been in the habit of recommending this book to students in need of a review of the subject, were glad to see the new edition appear. The additions which have been made (e.g., mention of Carlson's work on the stomach, and the section on vitamines), though not extensive, are important.

The book treats of digestion and metabolism in simple, concise, elementary fashion,

and may be used by those who have only a rudimentary preparation in chemistry and biology, as well as by others who desire a brief review brought up to date.

The author has a gift for making clear even the most complicated of these topics and the most intricate details. Moreover, the book is a practical one, i.e., it undertakes to apply scientific teachings to every day experiences wherever possible. Best of all, it strikes a happy medium between the detailed scientific statement which is so strictly qualified as to convey no distinct impression of any sort to the general reader, and the vivid, not to say lurid, imagery so frequently indulged in by the writer who serves up scientific topics for popular consumption.

As a text-book, it is particularly recommended to the attention of teachers of home economics classes consisting of students who must, for some reason, abridge as much as possible their preparation in physiology, yet need to understand many of the details of the physiology of nutrition and the teachings of dietetics. It is also recommended as a book of reference to those interested in reading a brief, sane digest of those topics so difficult to treat, classed under the heading "Hygiene of Nutrition."

MINNA C. DENTON.

Thrift by Household Accounting. Published by the American Home Economics Association, 1211 Cathedral Street, Baltimore, Md., 1916, pp. 34 (paper). $0.15.

This pamphlet offers several unique features. It is the only account book giving opportunity for recording the expenditure of money for foods according to their leading constituents. The system of classifying all expenditures at the first entry prevents duplication. It provides, furthermore, for the record of personal expenditures for individual members of the family.

It makes provision for thirteen weeks of house, food, and personal expenditure, with a summary for each week of "cash for use," "cash used" and "cash left over." Furthermore, there is a summary of weekly cash records, savings, and debts, for, as the introduction suggests, "It is often advantageous to keep a record of savings so as to encourage their increase, and a record of debts so as to encourage their decrease."

The introductory statements are very suggestive, and the publication should be valuable to the busy housekeeper because of its simplicity and its dietetic emphasis.

Thrift by Household Accounting is already in its second thousand. It has been adopted by a number of social investigators who find it especially helpful in tabulating the expenditure of individual members of families. It is well adapted to class use in the study of budgets.

CORA M. WINCHELL.

Low Cost Recipes. By EDITH GWENDOLYN HARBISON. Philadelphia: George W. Jacobs and Company, 1914, pp 208. $0.75 By mail of the Journal, $0.83.

This book is written by the editor of *Table Talk* and is evidently a collection of recipes from that magazine. Its name would imply that it was another contribution to the literature intended for the housekeeper who must count the costs with care. If in the cost of food is included labor, time, cost of materials, and utensils required for preparation, the term "low cost" is misleading. A number of the dishes give ways of using leftovers but since they call for the use of ring molds, patty shells, and many unusual seasonings and ways of garnishing they will not be of much use in reducing the cost of living. The recipes are evidently collected from many sources for there is no uniformity of terms or methods. In this day of level measurements it is very strange to see the phrases "heaping teaspoon" and "rounding tablespoon" and even that stand-by of our grandmothers "butter the size of an egg." Soda is put into sour milk in some recipes while in others it is dissolved in hot water.

There are no general directions or descriptions and there are a number of types of dishes which are not mentioned. However there are many attractive recipes and to a young housekeeper or an experienced one who has fallen into a rut the book should offer valuable suggestions.

FRANCES L. SWAIN.

BOOKS RECEIVED

Adenoids and Tonsils. By Algernon Coolidge. (Harvard Health Talks) Cambridge, Mass.: Harvard University Press, 1916, pp. 46. $.50. By mail of the Journal, $.55.

An Adequate Diet. By Percy G. Stiles. (Harvard Health Talks) Cambridge, Mass.: Harvard University Press, 1916, pp. 48. $.50. By mail of the Journal, $.55.

The Baby Before and After Arrival. By Joseph Brown Cooke. Philadelphia: J. B. Lippincott Company, 1916, pp. 239. $1.00. By mail of the Journal, $1.05.

Clothing and Health. By Helen Kinne and Anna M. Cooley. New York: Macmillan Company, 1916, pp. 302. $.65. By mail of the Journal, $.71.

Constructive Sewing. Book 1. By Mary E. Fuller. Indianapolis, Ind.: Industrial Book and Equipment Company, 1916, pp. 91. $.60 (paper). By mail of the Journal, $.65.

The Control of Hunger in Health and Disease. By Anton Julius Carlson. Chicago: University of Chicago Press, 1916, pp. 319. $2.00. By mail of the Journal, $2.14.

Ella Flagg Young and Half a Century of the Chicago Public Schools. By John T. McManis. Chicago: McClurg and Company, 1916, pp. 238. $1.25.

Feeding the Family. By Mary Swartz Rose. New York: Macmillan Company, 1916, pp. 449, $2.10. By mail of the Journal, $2.21.

Food and Health. By Helen Kinne and Anna M. Cooley. New York: Macmillan Company, 1916, pp. 312. $.65. By mail of the Journal, $.75.

The Home Care of Sick Children. By Emelyn Lincoln Coolidge. New York: D. Appleton and Company, 1916, pp. 282. $1.00. By mail of the Journal, $1.05.

PAMPHLETS RECEIVED

The following Government pamphlets may be obtained from the Supt. of Documents, Government Printing Office, Washington, D. C.; or Dept. under which they are issued.

Commercial Handling, Grading, and Marketing of Potatoes. By C. T. Moore. Farmer's Bul. No. 753, Nov. 1, 1916, pp. 40.

Business Practice and Accounts for Coöperative Stores. By J. A. Bexell. U. S. Dept. of Agr. Bul. No. 381, Sept. 29, 1916, pp. 56.

A Survey of Typical Coöperative Stores in the U. S. By J. A. Bexell. U. S. Dept. of Agr. Bul. No. 394, Nov. 3, 1916. pp. 32.

List of References on Child Labor. By H. H. B. Meyer and Laura A. Thompson. U. S. Dept. of Labor. Children's Bureau Industrial Series No. 3, 1916, pp. 161.

A Respiration Calorimeter, Partly Automatic, for the Study of Metabolic Activity of Small Magnitudes. By C. F. Langworthy and R. D. Milner. Reprint form Jour. of Agr. Research, vol. 6, No. 18, Dept. of Agr. 1916, pp. 703–720.

Rural School Sanitation. By Taliaferro Clark, George L. Collins and W. L. Treadway. Pub. Health Bul. No. 77, Treasury Dept. 1916, pp. 127.

The following are issued by the Bureau of Farm Development, Business Men's Club, Chamber of Commerce, Memphis, Tenn.

Legumes-Peas-Beans. By Bessie R. Murphy. pp. 4.

Peanuts for Breakfast, Dinner and Supper. By Bessie R. Murphy. pp. 4.

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Contributions to the bibliography are welcome. Please send material to the JOURNAL.

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NEWS FROM THE FIELD

The Iowa Home Economics Association held its eighth annual meeting in Des Moines, November 2 and 3, with Miss Winifred Gettemy presiding.

An especially fine program was given.

Miss Amy Louise Daniels, University of Wisconsin, read a paper on The Teaching of Dietetics in a High School Course. Dr. Lenna L. Meanes of Des Moines gave a comprehensive paper and demonstration of The Value of Scoring and Judging Babies. Dr. Meanes used as subjects of the demonstration the "sweepstakes prize" baby girl of Iowa and a defective baby. Miss Clara E. Millerd of Grinnell in her paper emphasized the idealistic value of Pictures for the Home. A talk on The Teaching of Food and Household Management Courses was given by Miss Genevieve Fisher, Iowa State College.

The annual business meeting closed the day's program. The Committee, having in charge the investigation of Home Economics conditions in the state with the ultimate aim of a standardized course of study in Home Economics, is to continue its work under the direction of Miss Florence O'Leary of Mason City.

For the second program Mrs. Elbert W. Rockwood, Iowa City, gave a practical and inspiring address on Mothering a Community. Miss Ethel Ronzone of the University of Missouri spoke on Clothing in the High School. The Teaching of Sewing was given by Miss Celestine Schmit of the University of Wisconsin.

The conference was closed by Miss Helen Louise Johnson's paper, Training in Spending and Saving, which was most enthusiastically given and appreciated.

A Meeting of the Indiana State Home Economics Association was held in Indianapolis the last week in October with about six hundred present. Miss Mary E. Hall, librarian of the Girls High School, Brooklyn, spoke on The Importance of a Household Arts Library in our High Schools; Miss Lillian Lohmeyer, of Evansville, on The Modern Trend of Art; and Mrs. Mary Schenck Woolman, of Boston, on The Relation of Vocational Education to the Regular Schools.

On Friday afternoon Mrs. Woolman spoke informally at a Russian tea served by a Russian from a samovar, in true Russian style.

Ohio Home Economics Meeting. The annual meeting of the Ohio Home Economics Association was held in the new Home Economics Building at Ohio State University, Columbus, Ohio, November 10 and 11, 1916. About 150 people, representing various schools and institutions of the state, attended the meetings.

The meeting opened Friday afternoon with a short business session, presided over by Miss White of Ohio State University. Committees for the new year were appointed and general business of the Association was transacted. This was followed by two addresses: Fitting Home Economics Work to Community Needs, by Dean Vivian, College of Agriculture, Ohio State University; and Application of Home Economics to the Present Situation in Germany, by Sarah T. Barrows, Assistant Professor of German, Ohio State University. This was followed by a tea and an inspection of the new Home Economics building.

Saturday morning a short business session was held, after which the meeting divided into two sections: Institutional Section, with Miss Lulu Graves, Lakeside Hospital, Cleveland, as chairman; and Public

School Section, with Miss Edna White of Ohio State University as chairman.

An address, The Present Status of Dietitians' Work in Ohio, by Dr. J. H. J. Upham, member of the State Board of Examiners, was given in the Institutional Section, and a general discussion followed. The following officers of the Institutional Section were elected for next year: President, Miss Graves, Lakeside Hospital, Cleveland; vice-president, Miss Deaver, Christ Hospital, Cincinnati; and Secretary-Treasurer, Miss Skinner, Ohio State University. A committee was appointed to formulate recommendations to be presented to the State Board of Examiners, regarding the status of the work of dietitians in the State.

In the Public School Section the following topics were discussed: Teaching Standards Through Domestic Art, and Home Economics and the School Lunch.

After these discussions, the two sections reassembled for the final business meeting, and the following officers were elected: President, Miss Faith Lanman, Columbus, Ohio; Secretary-Treasurer, Miss Sarah Stimmel, Akron, Ohio.

It was decided to make a survey of Home Economics Work in Ohio, to be reported at the next regular meeting, with the idea of standardizing the work given in the state.

Connecticut Home Economics Association. The fall meeting boasts an attendance that doubled the largest ever known.

The address by Dr. Benjamin R. Andrews on The American Home, was followed by a business meeting and luncheon.

A number of committees were appointed for definite work. The membership and questionnaire committees will jointly make a survey of the state; the budget committee will collect data for Dr. Andrews; and the committee on legislation will watch out for opportunities to foster bills on good label laws, honest label on clothing, domestic labor laws, and other bills..

The Utah Home Economics Association held its annual convention Thursday, Dec. 21, 1916, with the following program:

East Side High School—Business Meeting; "Art in the Home," Ida M. Savage.

Luncheon at Newhouse Hotel.

Barratt Hall—"The Food Problem," Rena B. Maycock and Blanche Cooper; "Milk and Mentality," Fred W. Merrill, Dairy Expert.

The Washington, D. C., Home Economics Association is conducting a series of lectures and demonstrations relative to Home Economics extension work.

Mr. O. H. Benson, of the Department of Agriculture, in charge of the Boys' and Girls' Club Work of the North and West, and Mr. George E. Farrell, of the same department, have given explanations and demonstrations that have caused the association to consider organizing a city home canning project.

New England Home Economics Association. The Section of Hospital Dietitians held a meeting at the New England Hospital for Women and Children, Roxbury, October 26, Miss M. E. Reed acting as chairman. Dr. Edith Hill Swift discussed The Feeding of the Infant and the Child.

The Association held an informal dinner at the Boston Women's City Club, November 17, at which Mrs. Ednah Rich Morse addressed the members and guests.

The Association regrets that the edition of the pamphlet on Feeding the Family of Small Income is out of print and will not be printed again.

A Richards Day Celebration. The joint meeting of Massachusetts Institute of Technology women and the New England Home Economics Association was held at the new Institute buildings in the Margaret Cheney and Emma Roger rooms.

It is interesting to note that many women are members of both associations, among them Miss Elliott and Dr. Blood of Simmons, Miss Hyams and Miss Kenny of Quincy Mansion School, Miss Lillie Smith of Brookline High School.

The decorations of the room were simple—the green of pines that Mrs. Richards loved

so dearly, brightened with the red of the berries, the color of which she was so fond.

About the rooms on cards 14 x 22 inches in size were quotations from her writings which brought her message to many again, perhaps a new message to some not familiar with her writings. These are as vital today as when she wrote them. The color scheme of "Tech" was used, the cardboard being gray and the printing red with the initial letter illuminated in gold.

Two requests came asking for them as loans for exhibits. They are first to be put up in one of the suburban high schools and then in a suburban public library. There were also many photographs and prints telling of Mrs. Richards life through the pictures. Miss Mary Barrows loaned some half tones from the book—Life of Ellen H. Richards.

It was suggested that it might be worth while to get a group of pictures together that could be used throughout the country for such purposes as these were used, or for exhibits.

Mrs. Lewis Kennedy Morse (Ednah Rich) spoke of the influence of Mrs. Richards' life on her work, and read some lines from Professor Palmer which aptly described it.

Professor Sedgwick spoke of her contributions as a scientist, and her general knowledge of many subjects. This was the necessary outlook in the pioneer days when both she and President Rogers had the vision. Because they did not live in vain, but made their ideals a reality, specialists are needed today.

All there felt that Mrs. Richards had been the intermediary between science and the home and had made them one. Her science she applied to the home and to the homemakers she gave the science.

The National Special Aid Society is arranging for "An Experience Meeting" to be held at the Hotel Astor, New York City, January 23, 1917. This will give a rare opportunity to listen to and to consult many well known experts from the United States Department of Agriculture, Yale University, Teachers' College, Milwaukee-Downer College, Pratt Institute, and various organizations in or near New York.

Money raised by this experience meeting will be used to carry on the work of the Home Economics Committee of the Society. Tickets at $2 may be obtained at the office, 259 Fifth Avenue.

The Society is also announcing a course on Household Management to be given during Lent, Tuesdays and Fridays, at 11 a.m. Eight lectures, $5.00.

During the fall there was given a course of twelve lectures on the art of spending. The topics of the lectures were: The Need for Wise Spending, Planning the Family Expenditure, Keeping Track of the Expenditure, How to Select Textiles, Keeping the House Clean, Training the Child to Eat, Planning the Family Meals, Buying the Family Supplies, Labor-saving Devices, Beauty and Utility.

Most of the lecturers were members of Pratt Institute and Teachers College faculties.

Brief Notes. Miss Myrtie C. Van Deusen who received her A. M. degree from Columbia University last year is now head of the Home Economics Department at Milwaukee-Downer College. Other new members of the Department are: Miss Nell C. Fields, sewing and dressmaking; Miss Sarah Porter, cookery and home nursing.

Miss Geraldine Hadley, president of the Home Economics Section, of the Indiana State Teachers Association, was formerly assistant professor of Home Economics in the State Agricultural College, North Dakota and has become director of the New Lunch Room, and instructor in Institutional Management, in the Technical High School of Indianapolis. This school was organized four years ago, with an enrollment of 180. There are now over 1500 students. With a most desirable location, and prop-

erty including seventy-six acres, and the current interest in vocational education in the state, this high school has a prospect of becoming one of the leading high schools of its kind in the United States.

Mrs. Henrietta Calvin, of the Bureau of Education expects to be at Rock Hill, S. C., January 15 to 22; at Montevallo, Ala., on January 25 and 26, and at Kansas City at the meeting of the N. E. A. on March 2.

HOME ECONOMICS MEETING TO BE HELD IN CONNECTION WITH THE N. E. A., IN KANSAS CITY, MARCH 2, 1917

Tentative Program

The President, Dean Catherine MacKay, Iowa State College, presiding

Morning session

Greetings from the National Home Economics Association, by the President. Some Administrative Problems in Public School Home Economics Teaching, Mrs. Henrietta Calvin, Bureau of Education, Washington, D. C. Project Work in Teaching Home Economics—its Value and Limitations, Dean W. W. Charters, University of Missouri.

The School Luncheon as a Project in Teaching Foods and Cookery in the Elementary and High Schools, Miss Essie M. Heyle, Supervisor, Kansas City; Mrs. Mary McBaker, Memphis Vocational High School; Miss Jenny Snow, Chicago Normal College.

Basis of Choice of Projects in Clothing Courses in Elementary and High Schools, Miss Mabel Barbara Trilling, University of Minnesota.

Afternoon session

Fundamental Inter-relation of Courses in Home Economics and Other High School Subjects, Miss Elizabeth Sprague, University of Kansas; Miss Josephine Berry, University of Minnesota.

Teaching the High School Students Their Responsibilities as Consumers, Miss Hildegarde Kneeland, University of Missouri.

A Consideration of the Subject Matter of Textiles as a Part in the Teaching of Clothing, Miss Anna Byers, Kansas City.

Principles of Design in Relation to the Teaching of Clothing and House Furnishing, Miss Holman, Kansas State Agricultural College; Miss Ethelwyn Miller, University of Chicago.

Mrs. Mary P. Van Zile, *Chairman*,
Kansas State Agricultural College.
Elizabeth Sprague,
University of Kansas.
Essie Margaret Heyle,
Supervisor Household Arts, Kansas City, Mo.

Program Committee.